

Memo to: MCJ Capital Partners

From: M. Carter Johnson

Re: Lessons in Accounting – The Cash Conversion Cycle

Date: 2/20/2021

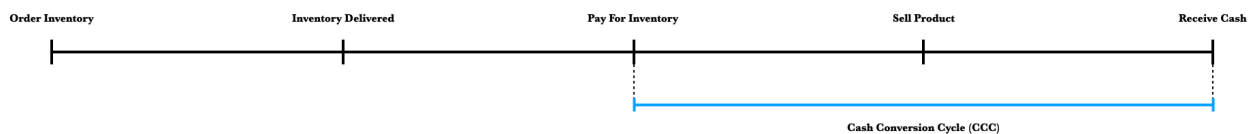
“I am a better investor because I am a businessman, and a better businessman because I am an investor.” – Warren Buffett

Part of being a good business owner is knowing how your business works. Most anyone who has attempted to analyze a company can attest to what seems like endless components in an effort to truly figure out the business. One of the best ways to start understanding a company is to simply focus on how cash works its way through the business. Lucky for us, accountants created a calculation called the *cash conversion cycle* that does just this. In this short memo we brush up on a few accounting lessons to better understand what’s going on with our companies...

What Is The Cash Conversion Cycle?

Simply put, the cash conversion cycle tells us how long it takes cash to work its way through the business. To understand the cash conversion cycle, it helps to first visualize the process a business goes through to get their product to market.

The business starts by ordering inventory from a supplier. That inventory is delivered along with an invoice for payment. A few weeks later the business pays its invoice to the supplier (thus parting with cash). The inventory then sits in the business’s possession until a sale is made. When the product is sold, the business issues an invoice to their customer. A few weeks later that customer pays their invoice to the business, thus returning cash to the company. The time the business shells out cash to pay for the inventory to when the cash re-enters the business from customers is referred to as the cash conversion cycle.



Why is this important? A fast cash conversion cycle means less cash tied up in inventory and receivables. A company that can push cash through its this cycle faster can reinvest that cash more often. Over a long period of time, this can create a huge competitive advantage. Let’s take a deeper look at how to calculate the cash conversion cycle...

Calculating The Cash Conversion Cycle

The Cash Conversion Cycle is calculated by adding together the Days Inventory Outstanding (DIO) with the Days Sales Outstanding (DSO) and subtracting the Days Payable Outstanding (DPO).

$$\mathbf{CCC = DIO + DSO - DPO}$$

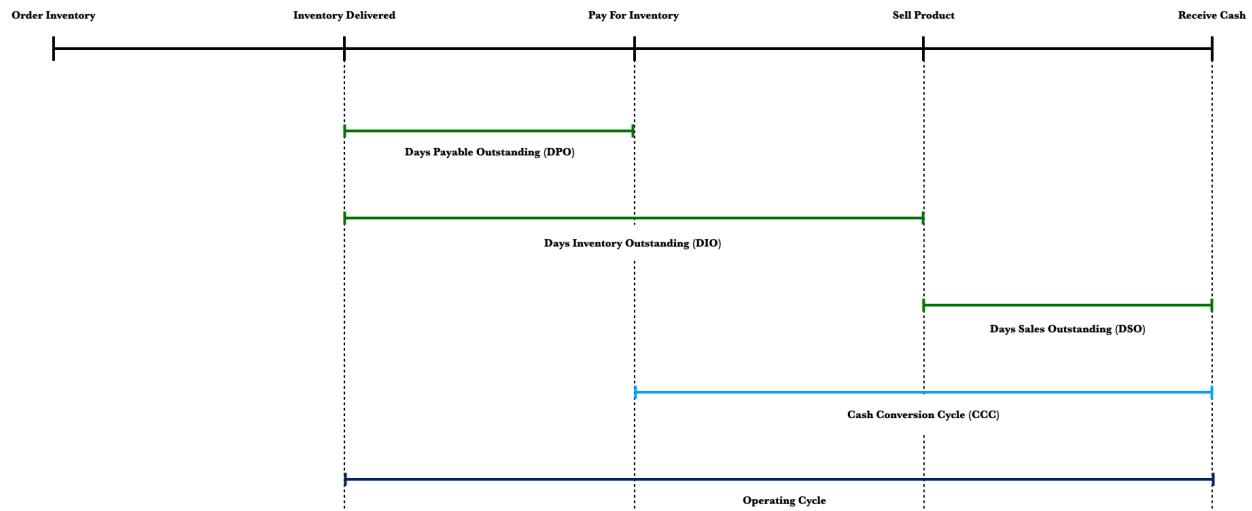
Cash Conversion Cycle

Days Inventory Outstanding

Days Sales Outstanding

Days Payable Outstanding

If we were to map these calculations on the previously outlined business process it would look like the following:



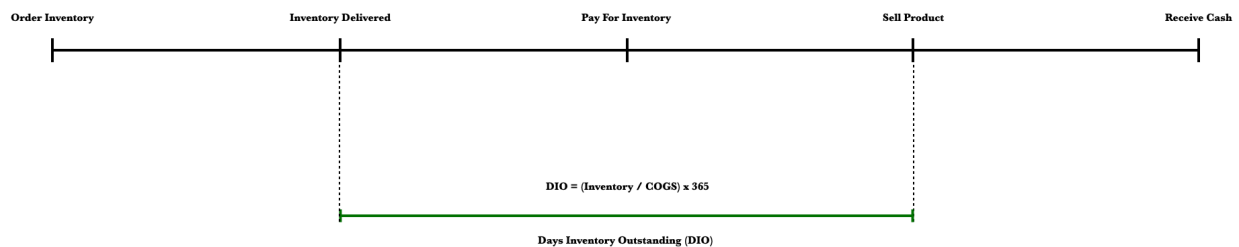
From the time the business receives the inventory, to when cash leaves to pay for inventory is referred to as Days Payable Outstanding (DPO). This calculation is computed by taking Accounts Payable on the balance sheet, divided by the cost of goods sold (COGS) on the income statement and then multiplying by 365 (days of the year).



Knowing what is transpiring with DPO is our first lesson...

Lesson 1: A company can manipulate their cash conversion cycle by extending their DPO. At times, this is done by management to help finance its own growth. In other instances it can be an indication our company is struggling financially. To decipher which is the more likely circumstance simply look at the top line sales trend. Generally, growing sales and an increase in DPO means the company is maneuvering the metric to help finance growth. Alternatively, declining sales and a longer DPO, is more indicative of a business trying to buy time with financing to shore up a lackluster operating performance.

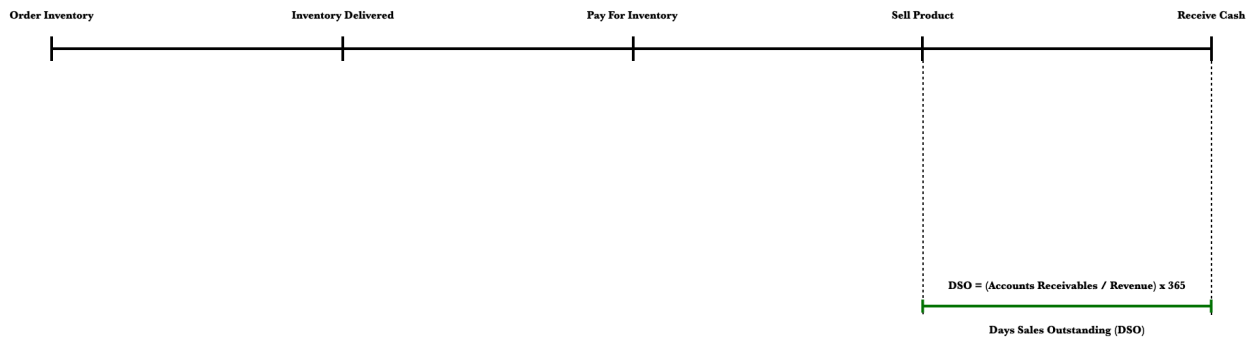
Once a business has received inventory, they need to sell it. A business with lots of inventory sitting around is essentially parking cash in that portion of their operating cycle. This is our second calculation. The time inventory is received to when the product is sold is referred to as Days Inventory Outstanding (DIO). To calculate DIO, we take the Inventory on the balance sheet and divide by the COGS on the income statement and then multiply by 365.



This brings us to lesson two...

Lesson 2: Good management keeps inventory in check. As business owners we want to see consistent (lower the better) or decreasing DIO. However, a rise in inventory (and DIO) isn't always a bad thing. Typically before a company expands into a new market, inventory levels are built up in anticipation of meeting short term demand. We can use this inventory build to project our own assumptions of what management is anticipating for sales. In addition, savvy managers will build up inventory for pre-emptive issues such as supply chain disruptions. To understand these narratives, channel checks across other industry participants is ideal.

Once the business has sold the product, cash must be collected. In businesses like retail, this is done instantaneous at the time of the transaction. However, for most businesses an invoice is produced and time is given for the customer to pay. This is our third calculation. The period between when the product is sold and when the cash is received is referred to as the Days Sales Outstanding (DSO). To calculate DSO, we take Accounts Receivable on the balance sheet and divide by Revenue on the income statement, and multiply by 365 days.

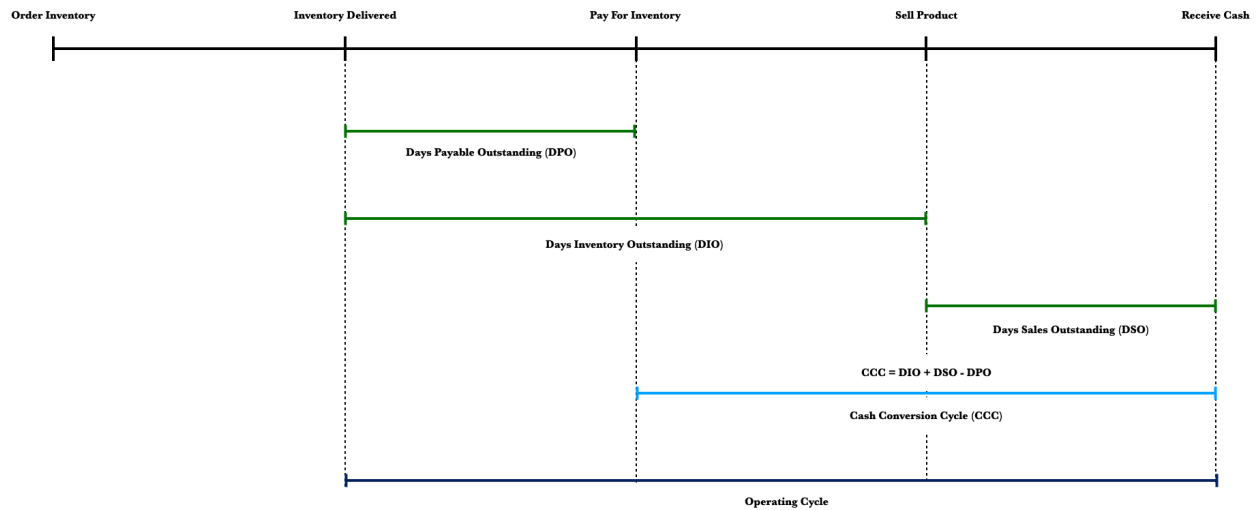


Days Sales Outstanding brings us to lesson three...

Lesson 3: The faster a business can collect, the lower their DSO. When cash comes in faster, the business is that much less at the mercy of outside financing to operate and grow. As a business owner we want a low DSO. If a business's DSO is increasing, it generally indicates management is having a harder time collecting. This could signal customers are in trouble and having a hard time paying their bills.

Finally, with the above calculations for DPO, DIO and DSO, our overall cash conversion cycle can be calculated. A summary of the necessary calculations is as follows:

	Annual Calculation	Specific Period Calculation
Cash Conversion Cycle (CCC)	$CCC = DIO + DSO - DPO$	
Days Payable Outstanding (DPO)	$DPO = (\text{Accounts Payable} / \text{COGS}) \times 365$	$DPO = \text{Average Accounts Payable} / \text{COGS per day}$ $\text{Average Accounts Payable} = (\text{Beginning AP} + \text{End AP}) / 2$
Days Inventory Outstanding (DIO)	$DIO = (\text{Inventory} / \text{COGS}) \times 365$	$DIO = \text{Average Inventory} / \text{COGS} \times \text{Number of days}$ $\text{Average Inventory} = (\text{Beginning Inventory} + \text{Ending Inventory}) / 2$
Days Sales Outstanding (DSO)	$DSO = (\text{Accounts Receivables} / \text{Revenue}) \times 365$	$DSO = \text{Average Accounts Receivable} / \text{Revenue} \times \text{Days in Period}$ $\text{Averages Accounts Receivable} = (\text{Beginning AR} + \text{End AR}) / 2$



Bringing It All Together

The cash conversion cycle differs from industry to industry. Some industries such as software have negative cash conversion cycles, thus making them that much better at self-financing their own growth. Other industries have long and costly cash conversion cycles. The best way to utilize the cash conversion cycle is to analyze it over a historical period for the company. What's important is to know how changes at each individual level of the CCC can impact the overall operating conditions of the business. Improvements in varying areas of the cycle can be an early tipoff to an inflection point of overall company operations. Conversely, deteriorating metrics within the CCC can be the canary in the coal mine of what's around the corner.

Overall, the cash conversion cycle isn't a metric praised by Wall Street, nor will it make any financial reporting headlines. However, it is a useful metric for business owners, and as investors that's what we view ourselves as – business owners.

Until next month,

M. Carter Johnson

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